

Application No. 10/840,178  
Paper Dated: January 25, 2008  
In Reply to USPTO Correspondence of September 25, 2007  
Attorney Docket No. 2034-044072

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims**

Claims 1-20. (Cancelled).

Claim 21. (Previously Presented) The sensor device of claim 48, wherein the separation barrier separates the interior of the sensor compartment from a primary container.

Claim 22. (Previously Presented) The sensor device of claim 48, wherein the at least one pore which allows fluid communication between the interior and exterior of the sensor compartment is occluded with a responsive material.

Claim 23. (Previously Presented) The sensor device of claim 22, wherein the responsive material is selected from the group consisting of cellulosics, non-cellulosic non-protein polymers, protein polymers, lipid bilayers, and lipid-containing composites.

Claim 24. (Previously Presented) The sensor device of claim 22, wherein the responsive material exhibits a response selected from the group consisting of eroding, dissolving, and changing three-dimensional form.

Claim 25. (Previously Presented) The sensor device of claim 24, wherein the response results from a change selected from the group consisting of a change in solvent concentration, a change in pH, a change in temperature, bacterial action, endotoxin action, enzymatic action, and contact with water.

Claim 26. (Cancelled).

Claim 27. (Previously Presented) The sensor device of claim 48, wherein the sensor compartment has walls comprised of an opaque material.

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Claims 28-29. (Cancelled).

Claim 30. (Previously Presented) The sensor device of claim 48, wherein the bioactive detector molecule and signal material are a fluorescent receptor complex.

Claim 31. (Previously Presented) The sensor device of claim 48, wherein the bioactive detector molecule and signal material are a fluorochrome-receptor complex.

Claims 32-35. (Cancelled).

Claim 36. (Currently Amended) The sensor device of ~~claim 48~~claim 21, wherein the primary container is closed for analysis.

Claim 37. (Previously Presented) The sensor device of claim 48, wherein the device is capable of aseptic operation.

Claim 38. (Currently Amended) The sensor device of claim 48, wherein the external-sensing viewing is remote-sensing viewing.

Claim 39-47. (Cancelled).

Claim 48. (Currently Amended) A sensor device, comprising:  
a biosensor comprising a receptor bound on a solid substrate;  
a sensor compartment having an interior and an exterior, and enclosing the biosensor, the sensor compartment having a surface allowing external viewing of the biosensor; and

a separation barrier forming at least a portion of the sensor compartment, the separation barrier being selected from the group consisting of a fibril membrane, a microporous membrane and a capillary-pore membrane, the separation barrier having at least one pore allowing fluid communication between the interior and the exterior of the sensor compartment, wherein the biosensor further comprises a detector molecule and signal material which are each attached to a surface of the biosensor wherein the detector molecule and signal material are selected from the group consisting of a) a combination of a first fluorescent receptor and a second fluorescent receptor, the second fluorescent receptor

emitting detectable light of a unique wavelength on excitation by fluorescent resonance transfer by the first fluorescent receptor; b) a combination of a first receptor and a second receptor, the first receptor binding a cell and the second receptor undergoing a detectable spectral change in response to material released by the cell bound to the first receptor; c) a combination of two inhibited fluorescent groups linked by an enzymatic cleavage site, and wherein enzymatic action cleaves the enzymatic cleavage site and releases the fluorescent inhibition; and d) a combination of a first receptor and a second receptor, the first receptor binding a cell capable of releasing an enzyme and the second receptor being an inhibited fluorescent group wherein the enzyme releases the fluorescent inhibition.

Claim 49. (Currently Amended) A sensor device, comprising:  
a biosensor comprising a receptor bound on a solid substrate;  
a sensor compartment having an interior and an exterior, and enclosing the biosensor, the sensor compartment having a surface allowing external viewing of the biosensor; and

a separation barrier forming at least a portion of the sensor compartment, the separation barrier being selected from the group consisting of a fibril membrane, a microporous membrane and a capillary-pore membrane, the separation barrier having at least one pore allowing fluid communication between the interior and the exterior of the sensor compartment, wherein the biosensor further comprises a bioactive detector molecule and signal material which are each attached to a surface of the biosensor wherein the bioactive detector molecule and signal material are selected from the group consisting of a) a combination of a first fluorescent receptor and a second fluorescent receptor, the second fluorescent receptor emitting detectable light of a unique wavelength on excitation by fluorescent resonance transfer by the first fluorescent receptor; b) a combination of a first receptor and a second receptor, the first receptor binding a cell and the second receptor undergoing a detectable spectral change in response to material released by the cell bound to the first receptor; c) a combination of two inhibited fluorescent groups linked by an enzymatic cleavage site, and wherein enzymatic action cleaves the enzymatic cleavage site and releases the fluorescent inhibition; d) a combination of a first receptor and a second receptor, the first receptor binding a cell capable of releasing an enzyme and the second receptor being an inhibited fluorescent group wherein the enzyme releases the fluorescent

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inhibition; and e) a receptor that binds a material, such that upon binding the material, spectral features of the receptor are altered.